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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,788	04/09/2004	Dominique Ligeois	Q81016	8716
23373	7590	09/11/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER ONEILL, KARIE AMBER	
			ART UNIT 1745	PAPER NUMBER
			MAIL DATE 09/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/820,788	<b>Applicant(s)</b> LIGEOIS ET AL.	
	<b>Examiner</b> Karie O'Neill	<b>Art Unit</b> 1745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Applicant's amendment filed on July 2, 2007, was received. Claim 1 was amended. Claims 12 and 14-24 have been cancelled. Therefore, Claims 1-11 and 13 are pending in this office action.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on March 2, 2007.

### ***Drawings***

3. The corrected drawings submitted July 2, 2007, have been considered by the examiner and are acceptable.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear to the examiner what the description of concertina is in the instant claims. The specification on page 7, lines 9-12 state that concertina is the lateral bands being folded to form a continuous plane base approximately perpendicular to the initial direction of the strips. The description given by Applicant in the arguments section on page 7, line 7, state that concertina folding is associated with the zigzag folds of an accordion achieved by the repeated flattening of

the lateral bands causing them to buckle and fold over. Which is correct, perpendicular or concertina? Therefore, the shape in to which the lateral bands are to be folded is indefinite.

***Claim Rejections - 35 USC § 102***

6. The rejection of Claims 1, 3-8, 12 and 13, as being anticipated by Ura (EP 1102337), under 35 U.S.C. §102(b), are withdrawn, based on Applicant arguments.

7. Claims 1 and 3-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Cailley et al. (US 3,761,314).

With regard to Claims 1 and 8, Cailley et al. discloses in column 3 lines 7-26 and Figure 1, an assembly of electrodes and separators obtained by winding a group of superposed negative and positive electrodes and two separator strips. Each electrode compromises a metal carrier sheet carrying the negative and positive active materials having a thickness of 0.6mm to 0.7mm, leaving an edge of the metal carrier bare and projecting from the ends of the assembly obtained after winding the electrodes and separators. The bare portion of the metal carrier sheet is bent in a perpendicular direction to the surface of the electrodes to form a base to which the current collector for each of the electrodes is directly welded (column 4 lines 15-17). On page 7, lines 9-12, of the instant application, the explanation of "concertina" is described as the lateral bands being folded to form a continuous plane base approximately perpendicular to the initial direction of the strips. In Figure 4 of Cailley et al., it can be seen that the

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electrodes are bent at an approximately perpendicular angle and form a base plane that lies against the surface of the cover (12) and bottom (17) of the casing.

With regard to Claim 3, Cailley et al. discloses the strips having a thickness of 0.6 to 0.7 mm. This is a thickness larger than a minimum thickness of between 10  $\mu\text{m}$  and 15  $\mu\text{m}$ .

With regard to Claims 4 and 5, Cailley et al. discloses wherein the bare portion of the metal carrier sheet is bent in a perpendicular direction to the surface of the electrodes to form a base to which the current collector for each of the electrodes is directly welded (column 4 lines 15-17).

With regard to Claims 6 and 7, Cailley et al. discloses wherein said connection, i.e. the base plane, is connected to a current output and the connection constitutes a current output. Cailley et al. references that it is evident that it is necessary to have connections to the electrodes which can conduct the high currents which the assembly of electrodes and separators is capable of supplying (column 1 lines 49-52). Cailley et al. also discloses that it is possible to supply current through the reliable contact between the current collectors and the electrode carriers (column 2 lines 8-15).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cailley et al. (US 3,761,314), as applied to Claims 1 and 3-8 above.

With regard to Claims 2 and 9-11, Cailley et al. discloses the system in paragraph 7 above, but does not disclose wherein the lateral bands are folded at a height comprised between 3mm and 4mm, said lateral band of the positive electrode has a height comprised between 13mm and 17mm, said lateral band of the negative electrode has a height comprised between 8mm and 12mm, and wherein said plane connection is welded at a distance of at least 3mm from one end of the separator of the electrochemical bundle. However, Cailley et al. discloses the thickness of the electrode bearing active material (column 3 lines 61-65). Therefore, it would have been within the skill of the ordinary artisan to adjust the height of the positive and negative electrodes and the distance of the welding, as long as the mechanical strength requirements of the electrochemical bundle can be met. *Discovery of optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch*, CCPA 1980, 617 F.2d 272, 205 USPQ 215.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cailley et al. (US 3,761,314), as applied to Claims 1 and 3-8 above, and in further view of URA (EP 1102337 A1).

Cailley et al. discloses the system in paragraph 7 above, but does not disclose wherein the plane connection is a blade not covering all of the surface of the plane base formed by said folded lateral bands.

Ura discloses wherein said plane connection is ribs, which could also be construed as a blade, provided on the current collecting plates not covering all of the surface of the plane base formed by said folded lateral bands. Figure 4 illustrates a modified example of a current collector plate (8, 9), in which a plurality of ribs (16) are formed projecting towards the projected portions of the current collectors (1b, 2b) of the electrode plate group (10) so as to form flat planes (paragraph 0030). Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to form the plane connection as a blade in the system of Cailley et al., because Ura teaches that the flat planes make reliable contact with the currents collecting plates (8, 9) through the ribs (16), whereby current collecting plates (8, 9) and current collectors (1b, 2b) can be welded together even more reliably (paragraphs 0030-0031).

### ***Response to Arguments***

11. Applicant's arguments filed July 2, 2007, have been fully considered but they are not persuasive.

*Applicant's principal arguments are:*

*(a) Examiner mistakenly interpreted the "concertina" folding*

In response to Applicant's arguments, please consider the following comments:

(a) Examiner took the definition of "concertina" folding from the specification of the instant application, page 7 lines 9-12. "Concertina" is described as, the lateral bands being folded to form a continuous plane base approximately perpendicular to the initial direction of the strips. Cailley et al. discloses in Figure 4, the electrodes are

bent at an approximately perpendicular angle and form a base plane that lies against the surface of the cover (12) and bottom (17) of the casing.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

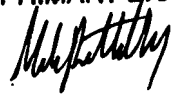
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karie O'Neill  
Examiner  
Art Unit 1745

**MARK RUTHKOSKY**  
**PRIMARY EXAMINER**  
 9/8/07

KAO